DRAFT 4/97

4.9   Test of Toronyi Two-phase Problem

This test verifies that FEHM has correctly implemented heat and mass transfer and phase partitioning. The results of the numerical comparison to the Thomas and Pierson (1978) solution (found in file *toronyi.saturations*) are given in Table 51. The maximum absolute error in saturation for this run was less than 0.002, and the percent errors were less than 2%. These results meet the acceptance criteria for this test suite developed in Chapter III. Figures 43 and 44 show the Toronyi and FEHM saturation fields for comparison.

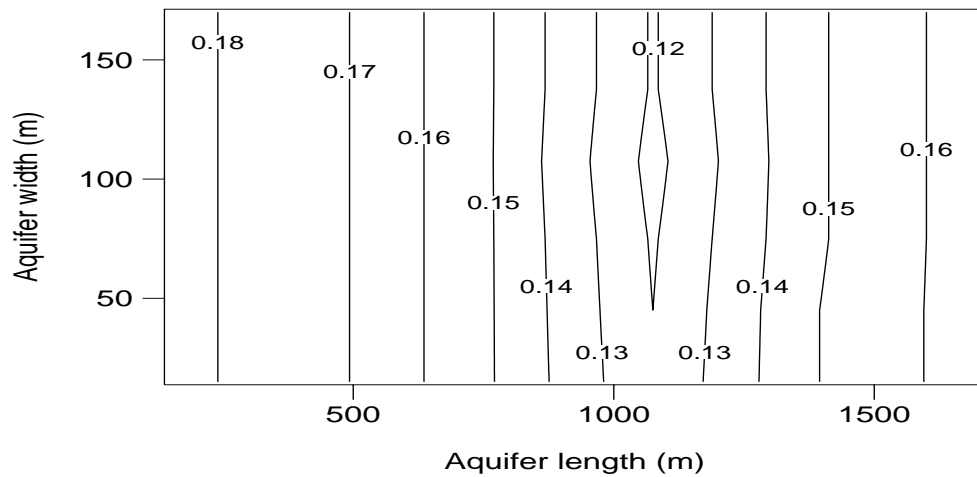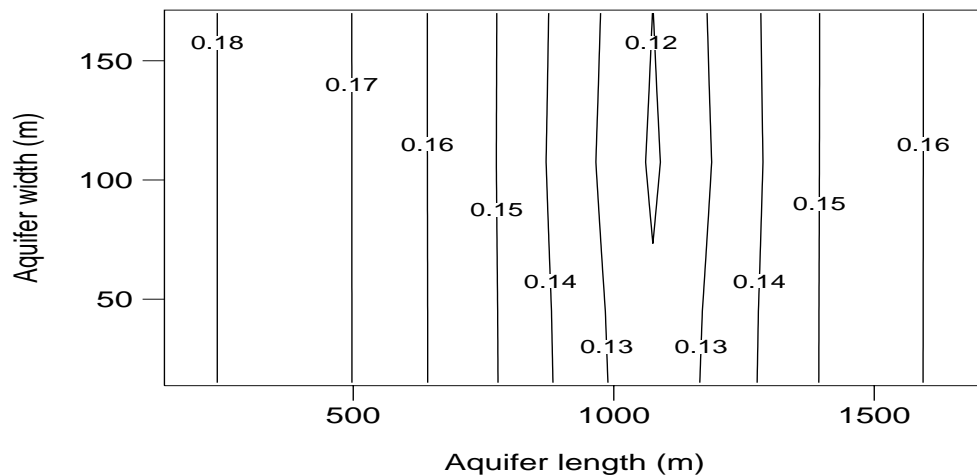| Table 51. Results of the test of the Toronyi two-phase problem			
V&V test	Maximum error	Maximum % error	RMS error
Final saturation at each node	0.1542e-02	1.318	0.7718e-03

Figure 43. Toronyi saturation field at t = 78.31 days.

Figure 44. FEHM saturation field at t = 78.31 days.